

Prelliophorus, I.

September 17, 1958  
Cerro Punta

~~Prilliophorus~~ = tibialis = Yellow-thighed Finch

Quite a lot of these around here in second growth shrubbery, near cleared areas. In twos or threes.

This species looks most un-finch-like in life.

Rather like a Tachyphonus tanager.

Also seems to feed on the ground or the low grass & vegetation just off the ground — like the ♂ White-lined Tanager I once had in my aviary for a little while.

These have done almost nothing in the way of interesting behavior so far.

One bird gave a series of many identical "Tuk" or "Tuk" Notes, very soft, when it flew across the road.

They all do very extreme TF movements almost constantly. Very pronounced lateral component. Usually V-D, I think,  $\nearrow \rightarrow \searrow$ , probably sometimes D-U.

They apparently do little or no WF-ing with their

Prelliophorus, I.

September 18, 1958  
Cerro Punta

Again watching more of these birds.

This species is definitely quite gregarious. Very often or even usually groups of 3. I have seen groups of 5.



Pellioophonus, Sept. 18, 1958, II

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I wonder if the slaty color could be correlated with this appearance?

They are also very vocal, (usually but not always), when moving about. Apt to give lots and lots of "Tuck"s. Rhythm very variable. Sometimes, particularly when flying moderate distances, accelerated into almost an R.

It is possible that they also have a higher pitched single note E.E. has heard this.

It is also possible that it has a clear, rather formless but not un-melodious, rather ringing, short warble like song. Have heard this from clumps of vegetation in which these birds were working, but have never actually seen a bird doing it.

Pellioophonus, I

September 19, 1958  
Cerro Punta

I caught a young bird (in almost adult plumage - just a little lighter underneath) but it escaped. It then flew to a nearby perch, where it was joined by 2 adults, presumably its parents. Then, one, two, or even all three of the birds sang! I didn't see this, but E.E. did. He said that there was no ritualized posture with this song. The song itself was the same as I heard yesterday. A loud & rather pleasant, but rather formless, twittering warble. Apparently used as greeting here (which it may well have been yesterday too). I suppose that it might contain a hostile component, but it can't be great (at least in these circumstances).



Prellioophonus, Sep. 19, 1958, II.

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||| ~~||||~~ This Yellow-thighed Finch, by the way, made no sound at all in the net or while being handled.

||| ~~||||~~ This species also associates with the mixed flocks of Bush-tanagers, warblers, etc. Sometimes apparently an integral member of the flock - at least for a while. Sometimes feeding a little distance away from the main body of the flock.

||| ~~||||~~ E.E. saw several other birds sing at various times later today. Usually, he says, after a bird perched after he flushed it. Would suggest that the song may be hostile.

Prellioophonus, I

September 20, 1958

Cerro Punta

||| ~~||||~~ I have now caught a whole family. One adult ♂, one adult ♀, and one young (looking almost adult). All quite silent when handled.

||| ~~||||~~ E.E. watched a family this morning (possibly the same one I caught later on). One bird, presumably the ♂, sang when the three members of the family came together. In quite unritualized posture.

||| ~~||||~~ Later on I watched a group (again possibly or probably the same) moving & feeding through a long stretch of bushes. Again one bird of the group sang whenever it rejoined one or both of the others, or when one or both of the others rejoined it. Again from quite unritualized postures (although I couldn't



see the head very well, and it is always possible that some head feathers were erected). Quite a variety of postures, in fact; just any sort of "travelling" posture it might happen to be in at the time.

Once this bird flew on ahead of the others, and sang when it landed in the new spot (i.e. away from the others).

Avoid from this one not very clear incident, the bird never sang when it was isolated from the others. I.E. this song is apparently very different from the WS of the Thraupis tanager. Apparently a sort of "greeting". May have a function similar to the GHAC Notes of the Green-backed Sparrow.

In sound, however, the song of this Yellow-throated Finch is quite reminiscent of the Palm Tanager. But even more "fowlers".

E.E. transcribes the call "Tsireetsweetsaweecha-tsireetsweetsareetsit" (Probably phrases repeated).

2 1/2 seconds for these 2 phrases. E.E. calls it a "squeaky twitter".

E.E. heard one Yellow-throated Finch give "Tzree" notes repeatedly. Resemblance to Tachyphonus? This bird was one of a family party of three. Just gave these notes while it was flying from bush to bush, presumably feeding.

One bird (the same bird?) of the same group also gave a peculiar version of the song. Same pattern as the song we have heard before, but musical, whistled, and shorter. Only did this once, after the two other birds in the



Pralliophanes, Sep. 20, 1958, III

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family group had just rejoined it

(It is possible that the "Tzee" Note mentioned above may have been a slight modification of the first syllable or first two syllables of the ordinary song. Possibly a sort of int. mov.)

This species may actually give a very very slight WF at the same time as a TF, but it is certainly very very inconspicuous

Pralliophanes, I

September 21, 1958  
Cerro Punta

I have seen several more cases of birds in family groups singing when they land after going on ahead of the rest of the family. So the song might conceivably function as a sort of "landing call", or may be used to "call in" the family from short distances.

Another case of a little flock composed of at least 5 individuals. Part of a mixed flock with the usual other species

Pralliophanes, I

March 5, 1959  
Cerro Punta

Still lots of these birds around here. Much as before, except that the family parties seem to have completely broken up. Birds always single or in pairs.

The mixed flocks based on Bush-tanagers also seem to



have devolved completely, so there isn't very much for the Yellow-thighed Friches to associate with, but they certainly do tend to haunt the same thickets as the Yellow-throated Atlapetes, and the two species often occur together in the same places at the same time — usually without any very obvious interaction.

The one "positive" reaction between the 2 species I have seen occurred this morning. A single ♂ (?) Yellow-thigh was singing by itself on a branch when a Yellow-throated Atlapetes landed on the same branch. The Yellow-thigh immediately hopped away a couple of feet and stopped singing. The Atlapetes just began feeding, apparently ignoring the Yellow-thigh, but a couple of minutes later the Atlapetes flew at the Yellow-thigh and drove it away! This would certainly suggest that the Atlapetes is "dominant", although it is by far the shyer (vis-a-vis humans) of the two species.

The behavior of this single Yellow-thigh was quite interesting before the Atlapetes appeared. Sitting at the tip of an exposed branch, singing. Repeating song phrases (I think my description of the song of this species last year is quite good) very frequently, but not very loudly. From quite normal unritualized sitting posture, without any nest raising or anything very fancy. The whole performance was quite reminiscent of the conventional song of the unmated males of many primitive avian species when they are trying to attract a mate.

I can certainly confirm that whenever one bird of a pair rejoins the other at least one of the birds (and possibly both) sings as a form of "greeting". This is really quite remarkable. I know of no other species which habitually sings in such circumstances.

We saw one interesting incident later in the morning. One



Pelliophorus, Mar. 5, 1959, III

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bird landed by itself, singing a conventional song phrase just as, or just after, it landed. (I think that it may have expected to find its mate near where it landed - as there had been another bird there a few moments before.) Then it sat for a moment (looking perplexed ???). Then it began to utter a call which I had never heard before. A series of clear whistle-like and/or flute-like notes "Whee whee whee whee..." Probably, I think, 5 to 7 notes in each call. Also given from quite unnatural sitting posture. Possibly due to throatal galling disease? In any case, the bird gave the call 3 times and then flew off and disappeared.

Pelliophorus, I

March 7, 1959

Cerro Punta

Nothing much new. All the Pelliophorus I have seen for the last 2 days (and God knows they are very common all around here) have been behaving just as before. The only interesting thing I saw today was a pair of Yellow-thighed Finches following along with a mixed flock of small birds, largely Black-checked Warblers, Bairdianus melanogerys, (there were probably some other warblers, such as redstarts, with this flock - but I couldn't see them). In thick forest, high up on mountain, over 7000 ft. (almost all my previous observations of Yellow-thighed Finches - all the observations of mixed flocks involving Brown-capped Bush-tanagers, etc., last year - were made between 5200 and 6000 ft.).

I caught another pair of Yellow-thighs in my net today; and again they were silent when handled.



Pelliophorus, I

(8)  
March 8, 1959  
Cerro Punta

This afternoon, in some second growth brush slightly below 7000 ft, I saw a pair of Yellow-thighed Frigates definitely following along with a mixed flock which also included both species of Red-starts, Wilson's Warbler, Yellow-throated Atlapetes, one Ruddy Turnstone, and a group of little finch-like or warbler-like birds which we haven't been able to identify yet.

Pelliophorus, I.

March 9, 1959  
Cerro Punta

Got a lot of interesting behavior on Yellow-thighed Frigates today at the same level, slightly below 7000 ft. Two pairs.

I think these birds may be quite territorial. They certainly follow or join mixed species flocks; but they may only trail with the flocks while the flocks are passing through their own territory.

Again I saw an apparently single bird (probably a mated bird whose mate was absent) give a song like the one described above on Mar. 5, p. 7, "Tawheee wheee wheee wheee wheee..."

Usually including 5, 6, or 7 notes, I think. Just sitting fairly erect in an unritualized posture. This is the vocalization which is obviously used to "call in" the mate; i.e. it is largely or completely the equivalent of the "song" of other species. I shall call it "Wce." The long more or less melodious warbling phrase used as a greeting between mates, the equivalent of the GHAC of other species, I shall call the



"Wbl".

Later on in the morning, a vigorous dispute, with lots of chasing and possibly some actual pecking, broke out between 4 Yellow-throats. Probably 2 pairs. In the neighborhood of a mixed flock. I think it probably began when 1 pair followed the flock over the border of the territory of another pair. The dispute certainly occurred between two areas in which we had seen different pairs before. In any case the actual chasing was accompanied by a series of loud "cluck" Notes, like particularly emphatic versions of the ordinary CN, and also a series of hoarse "free" Notes, uttered by one or more birds. It is my impression that most of the "cluck"s were uttered while the birds were in flight, and most of the "free"s after they had landed after the flight. The hoarse quality of the "free"s was strong enough to make them sound like the HAC Notes of other species, and I am sure that they were homologous with the latter. (I shall call these "free" Notes of the Yellow-throats "HAC" from now on.)

After the dispute seemed to have subsided, we heard (we could not see the birds, as they were in the bottom of some bushes) a burst of particularly loud Wbl's by one or more birds. Much louder than the ordinary "greeting" Wbl's, but otherwise apparently identical. Then one of the pairs flew off, and the Wbl stopped.

This incident would seem to be almost conclusive proof that the Wbl is largely or completely hostile in nature.

One of the birds remaining after the other pair had left, after the Wbl had stopped, hopped about in the bushes with its crest up or less definitely raised for at least a minute. Quite silent, not even giving CN's, during this period.



Trelliophonus, I

(10)  
March 12, 1959  
Barro Colorado

I brought the 2 birds I caught at Cerro Punta down here. One banded red, the other blue. Put them in a cage next to the old pair of Yellow-throats. Didn't watch them long (hardly more than 5 or 10 minutes) after this introduction, as I wanted them to settle down peacefully. I did see the following, however.

The new pair were just frightened stiff, and remained frozen, clinging to the edge of their cage.

The old pair was greatly excited, hopping & flying around all over the place. Often making little hopping "runs" along a branch in the direction of the new birds. Sittered lots & lots of Wbl's. In a great variety of unritualized pre-locomotory & locomotory postures — without a trace of CR or any ruffling or fluffing of any sort! The bill was just opened slightly during the Wbl. The mandibles probably moved a little in rhythm with the notes, but certainly not very much. I think one of the birds (presumably the ♂) Wbl'd much more than the other. This more vocal bird usually began Wbl, and was then sometimes "answered" by its mate, which began Wbl a second or so later. These Wbl's were unusually loud, and somewhat harsh in quality, but otherwise apparently quite normal. I think that the usual form of the Wbl of this species might be transcribed as counting of a few introductory notes "Tut tut" followed by something like "Tawheea wheea". The latter phrase often repeated, sometimes interspersed with a few more "Tut"-like notes. It does have a definite structure. Only it is so rapid that the structure is difficult to determine.



*C. pygmaea, I*

(11)  
March 20, 1960  
Cerro Punta

Been watching several pairs of Yellow-throats around 7000  
feet this morning. Quite active.

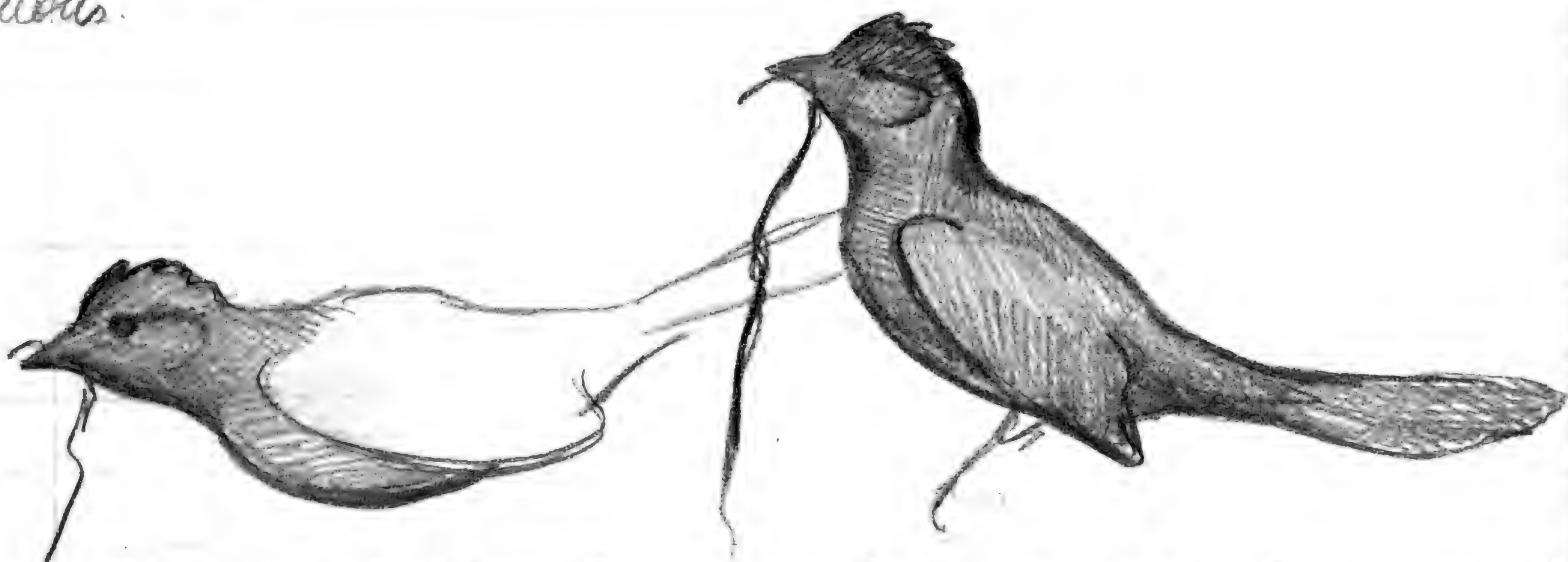
One pair was particularly interesting. Both birds flying very  
excitedly and were rapidly jumping from twig to twig and branch to branch.  
One was uttering lots of "Tuck" & "Tuck" CN's, almost constantly.  
Probably the ♂. The other was uttering out a few "Tuck"s or "Tuck"  
s. Probably the ♀. All these notes appeared to be a desire CN's, but pro-  
bably unusually loud, perhaps relatively high intensity. Presumably an indi-  
cation of a desire to fly, always uttered just before flying off. And when  
a bird did fly, (at least the ♂), it uttered long series of these "Tuck"  
CN's in a very accelerated manner. Forming a CN Trill. (It is probably  
significant that later in the morning, when the birds were much less  
excited, and spent most of the time, one or both always uttered at least  
1 or 2 "Tuck" CN's just before flying off, even when it did nothing else.)

When the birds were most excited early this morning, when they  
were moving about most rapidly and uttering their CN's most frequently,  
one bird (always the ♂, I think) would pick up a little n.m. from time  
to time, and then fly to a particular bush within the territory of the pair.  
This was always accompanied by lots of CN's, and CN Trills in flight,  
by the presumed ♂. Sometimes the presumed ♀ would follow the presumed  
♂ when he flew off with n.m. in this way.

Once when the presumed ♀ had followed the n.m.-carrying  
presumed ♂ to the bush (which was presumably a pot. nest site) the  
presumed ♂ hopped to her, in the bush, still carrying n.m. in his bill,  
and then began to hop around her and/or "pivot" (more or less irregu-



early - probably in an ritualized manner) with his tail and his wings stretched out more or less horizontally. In this posture he performed very rapid bowing movements. I don't know if these bowing movements were really ritualized as such, or only were exaggerated flying intention movements, but they were certainly quite conspicuous.



The presumed ♂'s tail was spread throughout this bowing performance [It was also spread most of the time he was hopping about excitedly long before and after the bowing performance. The presumed ♀'s tail was not spread to any appreciable extent while she was hopping about, even when she seemed to be at her most excited. (I think the presumed ♂ also tended to raise his vent when hopping about long before and after the bowing performance, but I am not absolutely sure about this.)]

The presumed ♂ was either quite silent during this bowing performance, or only uttered a few CN's.

The bowing didn't seem to lead to anything in particular, or provoke any particular response from the presumed ♀.

It is probably highly significant that there was absolutely no trace of "song" at all this morning when the birds were hopping around near one another so excitedly. This would suggest that the song



Trelliophorus, Mar. 20, 1960, III.

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of this species is definitely not the direct result of any activated pairing or sexual union.

We only heard song from one or both birds of this pair (which I shall call "Pair A") twice this morning. Once when pair A came very close to an adjoining pair. Then one or both birds of both pairs uttered many song phrases, interspersed with fairly loud CN's of the usual type. Both pairs were quite excited during this encounter. See sawing back & forth more or less regularly. This encounter was presumably a territorial boundary dispute. The second time we heard song was when pair A landed particularly close to us. Both incidents would suggest that the song of this species is largely or completely hostile.

Several times this morning, during the time when the birds of pair A were by themselves, and hopping about and uttering CN's particularly excitedly, one bird (the presumed ♂?) would suddenly leap from its perch (which was higher than the perch of the other bird) and plummet downward toward the other bird. The other bird always flew away before the plummeting one could land on it. All this was quite reminiscent of the "pouncing" of ♂ Song Sparrows and other species.

I might add, before I forget, that the "Zuk" CN's uttered by the birds today were rather metallic in quality. Somewhat reminiscent of the CN's of the Blue-black Grosbeaks, although not nearly as metallic. The more or less metallic quality may be an adaptation to living in thickets.

March 21, 1960  
Cano Punta

Nothing much today - too windy.



The only thing we did see was 4 birds hopping about excitedly in the same tree. One or more of them was singing loudly. I presume that this was a boundary dispute between 2 pairs. Another indication that the song of this species is essentially hostile.

Pselliophorus, I.

March 24, 1960  
Cerro Punta

Watched quite a lot of Yellow-throats (at least 4 pairs) near the great bend in the road below Cerro Punta.

Very active. Lots of flying about. Lots of "greeting" song by members of pairs whenever they landed together.

We watched one pair particularly closely. Call this pair "B". One bird of the pair, presumably the ♀, was building steadily all morning. Collecting n.m. and bringing it back to the nest and working it in to the cup. (I shall call this building bird "the ♀" throughout the following description, and her mate "the ♂". I think this is perfectly valid, as the building bird appeared to be rather smaller than the non-building one.)

When we first watched the pair, ca. 7:00 - 7:15 a.m., the ♂ frequently accompanied the ♀ to the bush in which she is building. He never went down to the actual site of the nest, but just landed more or less near the top of the bush, and then usually flew on to adjacent bushes & trees. Almost every time the ♂ came to the nest bush with the ♀ one or both birds uttered "greeting" song as they landed.

Occasionally the ♀ would interrupt building for a while and go to join the ♂ in the adjacent shrubbery. They then hopped about excitedly & clumsily, in typical Yellow-throat fashion, and one or both al



ways uttered "greeting" song whenever they landed more or less together.

During this display period they also uttered a lot of loud "Tuck" CN's, just like those of pair A described on Mar. 20. David noticed that these CN's were usually uttered in by them with the wing beats — presumably one note per wing beat. I also think that these CN's are only uttered in flight — i.e. when a bird is actually flying and when it is just hopping from perch to perch? Seldom or never when it is actually sitting on a perch ???)

The behavior was generally quite like that of pair A described above on Mar. 20 — except for the great frequency of "greeting" songs. It is possible that the frequency of these "greeting" songs may have been correlated with the "crowding" of pairs in this area. There were birds singing almost all the time in all directions. It is possible that this provided continual stimulation for the hostile drives of the B birds.

The ♂ gradually ceased to accompany the ♀ on her trips to the nest. By 7:00 a.m. he had stopped completely.

The ♀ also began to utter few or no CN's as she approached the nest. By 7:00 a.m. she was usually quite silent. As the frequency of her CN's declined, they also became softer. Instead of the loud "Tuck"s like those of pair A, they became very soft, like the notes described on Sept. 17, 1958, p. 1.

I think that the loud "Tuck" CN's uttered by excited pairs in association with nest building are probably nothing more than high intensity versions of the soft "ordinary" "Tuck"s. (It is possible — although I am by no means sure of this — that more or less loud "Tuck"s are sometimes given as alarm reactions to our presence.)

The most interesting behavior of pair B today, or involving one or both members of the pair, was some aggressive, even attack, behavior.



ies. Rather varied, and possibly heterogeneous, but I think that all or most of these reactions must have been comparable to the "greeting" of Song Sparrows.

Four times, when one bird was approaching the nest of pair B, another bird suddenly flew at it, and there was a very rapid & brief scuffle, and then one bird flew away immediately and disappeared. This attack or scuffle was always accompanied by a high-pitched R, followed immediately by some jumbled notes which may have been a brief formless version of the song.

We could not tell exactly who were the birds involved in these scuffles. Once, a few seconds after one scuffle, David saw three Yellow-throats in the more or less immediate neighborhood of the nest. So some of these scuffles may have been territorial defense, involving one member of pair B and an intruder. Some of them were probably something else, however.

Once, fairly early in the morning, when the ♂ accompanied the ♀ to the nest, one bird uttered a R, followed by the brief jumbled intimation of song, when they landed in the nesting bush. Instead of the usual "greeting" song. (In this case, I am sure that the two birds were the members of pair B. The ♀ went immediately to the nest and started to build in her usual manner; while the ♂ flew on unharmed to adjacent bushes in his usual way.)

Later on there was another pounce and scuffle like the four earlier birds. One bird approached the nest, and then another appeared and dashed at the approaching bird, and then flew away again. This dash was accompanied by the usual R-jumbled partial song. In this case, however, I saw that the approaching bird was the B ♀. She did not appear to be greatly affected by the attack upon her, and



Pelliophorus, Mar. 24, 1960, IV.

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went to build at the nest in a perfectly normal way. In a few minutes, another bird appeared from the direction in which the attack or had snapp and, and then bird turned out to be the B? (I am certain of this, as he immediately joined the female, and one or both birds performed a little "greeting" song.)

So some or all of these birds may be expected out of the nest to and/or as birds (probably the former) of mated birds. If so, they may well be strictly homologous with the "pounce" patterns of Song Sparrows & other buntings. In any case, I shall call them "P".

This P may be the last behavioral confirmation that the Yellow-throats really are buntings.

Unfortunately I could never be absolutely certain which bird or birds uttered the R - jumbled partial song during these incidents today, but I think that it was always only the ♂ and/or aggressor.

Pelliophorus, I.

March 25, 1960

Cerro Punta

We watched some Yellow-throated Finches in several mixed flocks today. It is becoming apparent that the Yellow-throated is essentially a "follower" in such groups. But its role is by no means "negative", however; (at least it is not "negative" in the same way as would appear to be the role of the Yellow-throated Atlapetes). The Yellow-throated is always conspicuous & frequently noisy. There are definite indications, moreover, that both the Brown-capped and the Footy-capped Bush-tanagers may respond "positively" to the song of the Yellow-throated (see notes on Chlorospingus, today and Mar. 20, 1960, p. 73).



One pair of Yellow-throats in a mixed flock we were watching today definitely flew straight to a group of Sooty-capped Black-tanagers which were engaged in a noisy dispute. (The Yellow-throats also began to sing as soon as they got near the Sooty Caps - but this may have been due to the fact that they were close to the border of their territory and almost immediately became engaged in a dispute with the neighboring pairs of Yellow-throats.)

The fact that the territories of the Yellow-throat pairs & the Sooty Cap pairs near the upper pasture are essentially "co-terminous" (see today's notes on Chlorophanes) is presumably important (some how) in determining the structure or organization of mixed flocks.

It is quite obvious that (now at least) there is never more than one pair of Yellow-throats (or one family group, after the young have flown) with a mixed flock at any given time. One pair will accompany the flock through its own territory, but will then be repelled by a neighboring pair when the flock leaves its territory. I should say that at least 75% of the disputes between neighboring Yellow-throats occur when a mixed flock is passing from one Yellow-throat territory to another. The singing of the disputing birds at such times must be particularly important in attracting more birds of other species to the mixed group.

Chlorophanes, I

March 26, 1960  
Cerro Punta

We watched the Yellow-throats by the upper pasture a little bit this morning. They weren't very active, but we got even more evidence that the role of Yellow-throats in mixed flocks is as set out above.

One bird did perform a totally new pattern, however. We saw



Pellionophorus, Mar. 26, 1960, I.

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a pair of Yellow-throats flying from bush to bush. One bird uttered a lot of single "Auh" notes during this procedure. These notes sounded exactly like one type of CN of Abamphocelus!!!

Pellionophorus, I

March 27, 1960

Cerro Punta

We watched a number of Yellow-throats near the upper pasture this morning, and I think that I am beginning to make better sense of the song of this species.

We flushed a pair of Yellow-throats from a very low clump of vegetation. (This clump was so low that I rather thought the birds might be interested in nest-building — although they were certainly not carrying n.m. when we saw them.) These birds immediately flew up into a nearby tree, and then hopped and/or flew from branch to branch. Every time they came together one or both birds sang, in typical Yellow-throat fashion, but the songs were not quite typical. They seemed to have a more structure than the usual similar twitter. The main structure might be diagrammed as follows:

Tuh Tuh Successes Whauh Whauh

or

(general twitter)

mmmm

peteeeeeeeee

Pet

Auh

Beginning with a few rapid CN's and/or a brief burst of twittering. Followed by a thin high note, which was followed by a long thin



cececece note. This was not actually a rattle, but it may have had a faint rattle undertone, and somehow was rather reminiscent of the R's we heard during the "pouncing" incidents described above on Mar. 24, 1960. This was followed by 2 notes which had a slight but definite "anh" quality, although less extremely "anh" than the notes we heard yesterday. This basic structure was apparently modified by little bits of "embroidery", possibly little bits of twittering, which I could not really follow.

Later on we watched a single Yellow-thigh and a pair of Yellow-thighs in a flock. Eventually they became engaged in a moderately lengthy dispute (I don't know why - they seemed perfectly happy before). This was accompanied by lots of song, mostly twittering as usual, but one bird also uttered lots of rattling notes during the dispute. These were quite different from the rattles during the "pouncing" incidents described above on Mar. 24. They sounded as if a rattling rhythm had been superimposed upon an "anh" Note. (I think I shall call such notes "AR", and the rattles we heard during the pouncing incidents "ER".)

David thinks that, at another time this morning, he heard one Yellow-thigh hopping about excitedly in the bushes uttering "anh" notes like those we heard yesterday. He couldn't see what provoked this or what it led to.

I am gradually coming to the conclusion that the whole vocal repertoire of this species might be interpreted in terms of the following "major" patterns: the "Twitter", CN's, the "R", and the "anh". Several of these may be combined or intergrade with one another. Most of the song patterns are largely or completely "Twitter", and the other vocal patterns may be incorporated into songs in certain particular circumstances.



Pelliophorus, Mar. 27, 1960, III.

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stems (Now I shall have to abandon the term "song" in the care of this species also.)

As far as I know, we have never heard the "Auli" notes (at least the pure "Auli" notes) uttered by any birds except those that were nesting or beginning nest building. This might suggest that the "Auli"s are predominantly some pairing or sexual motivation.

Pelliophorus, I

March 28, 1960

Cerro Punta

Watched a few Yellow-throats by the great bend in the road very briefly this morning.

One bird of a pair gave several bursts of loud but rather abbreviated song (largely Twitter, I think) after its mate had left it (flying off to another tree). Such song by an isolated bird is certainly very rare. The singing bird flew off to join its mate after a minute or so.

None of the birds down here gave the slightest trace of "Auli" or "Auli"-like notes this morning. Perhaps the birds down here are already past the peak of pairing behavior.

I noticed that the loud "Tuck" CN's may be so accelerated in flight as to form a real R. But the notes of such R's are always much sharper & distinct than the notes of either the AR's or ER's I have heard. I shall call such R "CNR"s. (CN full)

Pelliophorus, I

March 29, 1960

Cerro Punta

We watched the Yellow-throats in the upper pasture this



Phyllorhynchus, Mar 29, 1960 I

(22)

morning. They were not very active.

We heard our big fight, between two pairs, or between a pair and a single intruder. Lots of loud "Tuh" CN's and twittering song. Also both AR & ER.

Later on we listened to some "greeting" songs between the members of a pair. We were able to decipher a little more of the fundamental structure of the basic song phrase. First an apparently undifferentiated twitter, then a higher-pitched longer note, then a couple of descending notes.

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Twitter

"tuh"

"tuh"

tuh tuh tuh tuh "etc"

"tuh"

This might well be fundamentally similar to the songs of the local species of Atlapetes.

Phyllorhynchus, I

March 30, 1960

Cerro Punta

Although I have seen a great many Yellow-throats in many environments now, I don't think I have ever seen them actually feeding on the ground. They almost never even hop on the ground going from place to place. This is somewhat surprising, as they frequently hop through low-lying shrubbery only a few feet or inches from the ground.



Polioptila

October 3, 1960  
Cerro Punta

Came across a pair of Polioptila this morning. The pair was in a flock just below the way used in the road to the Polioptila house. I saw it first on Oct 3 or 4. One of these Polioptila Polioptila was uttering this soft, "Treet" CN's before they became aware of my presence. Sounded very much like the ECN's of the Polioptila Polioptila. (There was a pair of Polioptila Polioptila in the same flock with the Polioptila Polioptila this afternoon, but I am almost certain they were silent when I heard these "Treet"s.) Then the Polioptila Polioptila began to utter moderately loud "Tuck" N's when they were obviously reacting to me. Some of these "Tuck"s were quite metallic, but others were not.

Polioptila, I

October 7, 1960  
Cerro Punta

Watching a pair of Polioptila Polioptila this morning (possibly the same pair as on Oct 3 above). Obviously undisturbed by me. Came very close. One of the birds feeding (apparently eating leaves!) about 3 feet from me. During this feeding, and subsequent hops through the shrubbery, it uttered a lot of single, soft, very short "Treet" Notes. Presumably CN's. Quite like the ECN's of Polioptila Polioptila in quality, but very much shorter. PN's?

So the "Tuck" Notes are presumably hostile, not CN's.

The TF's of this species are really quite remarkably extreme. The birds I watched this morning were doing extreme V-D TF's. (The tail is not fanned more than usual during TF's, but it is always slightly fan-shaped.)



Pselliophorus, I

(24)  
April 1951  
Cerro Punta

Watching a pair of Yellow-throats engaged in building this morning. Near the great bend. In exactly the same place where we watched pair "B" building last year in March (see p. 14 et seq.). Perhaps the same pair. In any case, I shall call these birds "B" too.

Unfortunately, I did not become aware of this pair until fairly late in the morning, around 7:15. I watched them for about an hour after this.

During this period, the presumed ♀ (I shall call the presumed ♀ and the presumed ♂ "♀" and "♂", to cut court, from now on) made collecting trips after collecting trips. Sometimes collecting grass and straw. At other times collecting dead leaves. Spent quite a long time arranging the material after each trip. The ♂ usually accompanied the ♀ both to and from the nest. While the ♀ was building, he tended to sit quietly in another bush a few feet away. While the ♀ was collecting, the ♂ tended to move about and feed, sometimes close to the ♀, and at other times some appreciable distance away from her.

The birds were really quite remarkably silent — for Yellow-throats — this morning. I heard only one real "greeting". Apparently purely Twitter. This Twitter consisted of 2 or 3 essentially or absolutely identical phrases. Each phrase might be transcribed by something like "Ja-ta-ta-zeeeee za-zeeeee". Each phrase seemed to begin very rapidly, and then slow down, a little, toward the end. Quite remarkably reminiscent of the WS's of Palm Tanagers.

(I wonder if both the WS of the Palm Tanager and the Twitter of the Yellow-throated Finch could be neotenic ??? Derived from juven



III de "sub-song" ??)

(The male usually uttered a lot of soft "Suck" notes when in flight)

At least 3 or 4 times when the ♀ landed some distance away from the ♂, after she left the nest, she uttered a faint, abbreviated, rather pleasant and warbling type of "Twitter" (just one phrase to each landing) It seems very unlikely that she could have been reacting to the ♂ when she uttered these phrases. V. & the "expert" the ♂ to be there when she landed ?? Or was she trying to "tell" the ♂ ?? Or was she reacting in a hostile manner to me ??? (In any case, such brief soft phrases seemed to be an ordinary, "normal" part of her reporting)

I saw 3 cases of P this morning. More or less like the P's seen last year. They all occurred when the ♀ was flying across the road, toward the nest, carrying nest-material.

The ♂ actually hit the ♀ in the first P. This provoked a very brief aerial fight. The ♂'s P itself was quite silent, but one or both birds uttered 1 or 2 harsh "screes" notes during the actual scuffle. I presume that these "screes" were what I called ER last year. The ♀ flew on to the nest immediately after the scuffle, but the ♂ was distracted by me (see below).

The ♂ missed the ♀ in the second P. Both birds probably quite silent throughout. (It is barely possible that one of them uttered a very faint rasping noise when the ♂ was nearest to the ♀.) The ♀ just flew on to the nest, while the ♂ went to perch in a nearby bush.

The ♂ hit the ♀ again in the third P. Another brief aerial scuffle. Again the actual P was silent. But the scuffle was accompanied by a faint "screes", followed immediately by an equally soft but



more definitely rattling mmm R. (This latter may, conceivably, be the same thing I called "AR" last year — see notes of Apr 21, 1960, p. 20). Again the ♀ just flew on to the nest after the scuffle, while the ♂ flew to sit in an adjacent Cuckoo.

In general, I have been surprised by how surprised Yellow-throats have been everywhere this trip. Almost all the birds I have seen have been alone. And not very noisy. This must be the "off season" for display. I imagine that many of the ♀'s must be incubating.

When ♂ B suddenly became aware of my presence after the first P this morning, he landed in a bush near me. There, he did a lot of irregular bowing and pivoting. Silent. But with extreme CR, WF's, and TF's. This was all very reminiscent of other Cuckoo-finches. But neither the bowing nor the pivoting movements were as extreme as the most extreme movements I have seen performed by some other species.



Low bow posture

I was again impressed, today, by the extreme exaggeration of the TF's of Yellow-throats. All the TF's I saw today were extreme V-D. Sometimes quite vertical. At other times, with a very extreme lateral component.



Phylliophorus, I.

April 11, 1961

Cerro Punta

Tried to watch the birds again today, but I didn't get much in the way of interesting observations. They were around in the vicinity of the nest, from about 7 a.m. onwards. All birds behaving much as yesterday. B & C were less active. I only saw one P. Later in the morning, the ♀ seemed to be building by herself. The ♂ did not accompany her on her trips to the nest and I could not locate him waiting anywhere in the area.

Around 7:20 a.m. I saw a lot of yellowish grey fluttering coming from a thicket of vines, about 20-40 feet from the B nest site. When I finally found the birds in my binoculars, I saw that there were 2 birds there, very close together, one bird hopping right behind the other. These birds uttered a whole series of Twitters, one right after the other, during this hopping. Many more Twitters than I have heard today yet at any other time during the last 3 days of observation. Gradually the birds separated, and they uttered their Twitters at longer intervals. Then one bird started to preen, and both relaxed.

I thought that this behavior might be an unsuccessful copulation attempt or post-copulatory display.

I don't know if these birds were the B birds or not.

Phylliophorus, I.

April 12, 1961

Cerro Punta

Watching birds down by the great bend of the road again. The B birds were unusually inconspicuous this morning. (I



Guadalupe, Apr 12, 1951

78

think - see below). I saw the pair in the nest - ate very much - it after dawn. I also heard one or two Yellow-throats uttering faint "Tuck" CN's in an area which the B's used to frequent later in the morning. But this is all! The B's must be in the "post-natal" which is so characteristic of tropical tanagers and finches, and so uninformative!

I did observe a bird near the B area from time to time. I don't think this bird was a B. It was joined by its mate occasionally but only for brief periods. I shall call these birds "C", at least for the time being.

One I flushed a C bird quite unexpectedly. It flew up to the top of the low shrubbery in which it had presumably been feeding. It perched on a branch for a second, uttered a distinct "See too to - swee - yoo" and then flew away. This vocalization may have been an abbreviated Twitter, but it was certainly very reminiscent of the Brown-capped Bush-tanagers.

I also came across a C bird in the shrubbery, several times, without seeming to startle it as much as in the last incident. The bird usually just flew and hopped through the shrubbery, sometimes coming to "inspect" me, sometimes not. It was usually quite vocal. Uttering quite a lot of "Tuck" CN's. Both while perched and when flying. These "Tuck"s were sometimes very soft, sometimes quite loud (but never very guttural). The loudest "Tuck"s were usually uttered when the bird was nearest me. The bird also uttered quite a lot of long, moderately loud, rather musical Twittering phrases from time to time. I think these Twittering phrases must have been hostile and provoked by my presence. (The bird's mate was not visible nearby. And the bird did not utter Twittering phrases except when it was obvi-



Pselliophorus, Apr. 12, 1961, II.

(29)

only rather disturbed by me.)

Some of these "Isa" or "Twittering" phrases was accompanied by very special postures or movements.

When the C bird was joined by its mate, once, both birds uttered a number of long, low, "Twittering" phrases, but nothing more developed.

Pselliophorus, I.

April 13, 1961

Cerro Punta

Watching birds in the area half way between Cerro Punta and the upper pasture this morning.

About 7:00 a.m., I was standing in a thicket when a single Yellow-thigh landed on a branch above my head, and uttered a "Twitter", followed immediately by three loud "Isa-weeee" notes. This bird was then joined by its mate, and stopped vocalizing immediately. Both birds flew away and disappeared without doing anything further.

This "Isa-weeee tra-weeee tra-weeee" vocalization was very reminiscent of some of the "songs" of Chestnut-capped Bush-finch I heard today (see today's notes on Atlapetes), but louder and not at all "whispering". Probably also lower in pitch.

Pselliophorus, I.

April 14, 1961

Cerro Punta

This morning I went back to the same area, arriving around 6:30 a.m. Spent most of the time watching the pair of birds I saw



Yesterday (see above). I shall call this song "X"

The X birds were not together steadily all morning. They frequently moved about and fed in the shrubbery for approximately 5 minutes at a time, but then one bird would disappear for 10 to 15 minutes, leaving the other bird behind. I rather think that the bird which disappeared periodically must have been a ♀, probably engaged in nest building, and that the bird left behind must have been a ♂.

When left by the ♀, the ♂ would go up high in a moderately high tree, and sang and sang and sang, steadily, until the ♀ reappeared and joined him.



Posture accompanying  
2-N song.

Head tilted way up.

Some CR.

Some flapping or ruffling  
of throat feathers.

All the songs uttered by ♂ X when he was alone were the same. Like the song described yesterday. Always 3 doublets of long drawn notes. "Tsa-wee tsa-wee tsa-wee" (The 2 notes of ea



the doublet, - the 2 syllables of each syllabic note, were approximately equal in length). I think I shall call this vocalization "the 2-Note Song".

All the 2-Note Songs of the ♂ were identical from essentially similar postures. (See the photos of the ♂ on the preceding page.)

The ♂ tended to repeat 2-Note Songs and remain silent (some times very long) as long as the ♀ stayed away. He also tended to remain motionless for several periods at a time while he uttered several 2-Note Songs. The ♂ uttering 2-Note Songs moved around less than any other Yellow-thighed Finch I have ever seen.

The ♂ seemed to have two favorite trees from which he gave his 2-Note Songs. These trees were side by side. Within these two trees, he did not seem to have any particularly favored unique perches. These 2 trees were not connected with the lower shrubbery by vines. The ♂ uttering his 2-Note Songs was remarkably high for a Yellow-thighed apart from a tangle of vines.

The quality of the notes of the 2-Note Songs was quite distinctive. Loud and hard. Almost "Zicker zicker zicker". (The quality of the notes was so unlike that of most notes of other bush-finches and bush-tanagers that at first I thought the vocalizations must be uttered by some dendrocolaptid.)

The very fixed "determinate" number of notes in every 2-Note Song is also very distinctive.

It is obvious that the 2-Note Song is the song used by our bird to attract its mate during the breeding season. (The ♀ usually joined the ♂, eventually, when he continued uttering 2-Note Songs long enough, but I could not, of course, prove that she would have joined him less promptly if he had not uttered 2-Note Songs.)



Phalacrocorax, Apr 14, 1961, III

(32)

The 2-Note song of this species may be strictly homologous with the DWS of Rhamphocelus spp. (and the NNN of Chlorospingus ??) They also exhibit an early stage in the evolutionary transition from DWS to the 1-Note songs of both Rhamphocelus & Saltator ???

Whenever the ♀ X joined the ♂, they always hopped about, & flew, feeding actively. Also uttered lots and lots of loud musical Twitters. Whenever they landed together, or one came close to the other, I am almost certain that these Twitters were uttered by both the birds. Each Twittering phrase seemed to be based upon the following "outline": "Ta-ta-ta - seeeeeeee - ta-ta-ta" Some bursts of Tw

twittering included only a single phrase, but most consisted of the same phrase repeated once or twice.

I wonder if the long note included in the middle of each Twittering phrase could be homologous with the SN's of Thraupis and Tangara and the PCN's of the fauque de Jore?

Just once, early this morning, when the 2 birds were hopping about and Twittering together, one of the birds suddenly uttered "seeee seeee seeee seeee". It led this when its mate was only a few feet away; but I think that this must be the same as the similar calls I have heard uttered by isolated ♂'s (see Mar 5, 1959, p. 7, and Mar 9, 1959, p. 8). Probably produced by the same motivation as the 2-Note songs, at a lower level.

Very early this morning, when I first arrived in the area, I saw a single bird (almost certainly not one of the X's) moving through the bushes, uttering lots of Twitters as it did so. All of these Twitters seemed to be composed of repetitions of essentially identical phrases. Each phrase might be represented by the following diagram.



Pelliophonus, Apr. 14, 1961, IV.

(33)

"Ja-~~wee~~-ee ~~now~~" (The last part represents a formless twittering warble).

This bird perched on a branch, once, and uttered several more distinct "Ja-~~wee~~-ee" phrases (louder than the "Ja-~~wee~~-ee's" of the Twittering phrases described above, and without subsequent warbles), followed immediately by more of the Twittering phrases described above (including warbles). Then it flew away and disappeared.

I presume that these "Ja-~~wee~~-ee" patterns were closely related to the 2-Note songs of the X♂, but they were softer and much less emphatic sounding.

Late in the morning, I saw a single Yellow-thigh (probably X♂) feeding on the ground for a couple of minutes. Made a few hops. Picked at vegetation on ground with its bill.

Pelliophonus, I

April 15, 1961  
Cerro Punta

Watching the X birds again this morning.

The ♂ X began uttering 2-Note songs at 6:45 this morning (after he had been together with the ♀ once). He then continued such songs, off and on, all morning.

Surprisingly enough, almost all the 2-Note songs he uttered this morning were composed of 4 doublets "Ja-wee tra-wee tra-wee tra-wee". I don't know why there was this difference from his behavior yesterday.

Not all the 2-Note songs of the X♂ are hard & loud. Every once in a while, he utters a softer 2-Note song. The "Ja-wee" notes in such



Proceronotus, Apr. 15, 1961, I.

(34)

soft 2-Note songs are definitely reminiscent of some notes I have heard incorporated in Twitters. But such soft 2-Note songs are relatively very rare.

The posture accompanying 2-Note songs is not always exactly as I drew it yesterday, but it is usually pretty close. This posture is certainly ritualized in form.

I was again struck, today, by the ♂'s habit of going high in trees in order to utter 2-Note songs. He seems to lose his fear of heights completely at such times.

I think the ♀ must be incubating. She only visited the ♂ occasionally this morning, but neither bird carried n.m. at any time.

April 16, 1961

Cano Picuta

Went back to watch the X birds again this morning.

Just after dawn, the 2 birds flew around and fed together quite energetically. Uttering a lot of "greeting" Twitters, but no 2-Note songs. I am now fairly certain that this species does not have a real, distinct, "dawn song" pattern.

The ♂ uttered first 2-Note songs at 6:55. These first 2-Note songs were composed of 4 doublets.

Later in the morning, the ♂ uttered several more bursts of 2-Note songs. Some of these were rather different from any I have heard before. Composed of  $3\frac{1}{2}$  doublets, with the first syllable or note of each doublet being comparatively hard. Such a 2-Note song might be transcribed by something like "Tuck-a tuck-a tuck-a tuck."



During one performance, around 8:00 a.m., the ♂ first uttered a short burst of 2-note songs composed of  $3\frac{1}{2}$  doublets, then he sang a series of "Isa-wee"s, then switched to more 2-note songs composed of 4 doublets ("Isa-wee" type was "Isa-wee" type), and then switched back to utter more  $3\frac{1}{2}$  doublet songs as before.

I presume that these  $3\frac{1}{2}$  doublet "Isa-wee" 2-note songs must differ from the more conventional 2-note songs in motivation (and possibly function), but I don't know how. The sound of the "Isa-wee" songs might suggest that they are more strongly hostile; but this is purely hypothetical as yet.

I also don't know if the motivation of the "Isa-wee" type songs is different from that of the "Isa-wee" type songs. (I rather think not.)

As far as I could tell, all the 2-note songs uttered by the ♂ this morning were uttered when he was separated from the ♀ — except one. Once he uttered a (perfectly conventional?) 2-note song when he was only 20 feet away from the ♀, and she was in full view.

I noticed this morning that the ♂'s tail vibrates or shakes quite appreciably in rhythm with the notes of the 2-note song.

The most interesting behavior of ♂ X this morning was some rather exaggerated Bowing.

Every once in a while (usually, I think, immediately after the ♀ had joined him, after being away for a while), the ♂ would become very excited, and start hopping and flying madly all around the ♀, usually staying within 3 or 4 feet of her. At the same time, he would begin to perform lots of irregular but quite extreme Bowing and pivoting. This was accompanied by lots of



extreme TF's. V-D, going very far up and then down, but by no means always, with a very extreme lateral component. During this Bowing, the tail was always fanned very widely. This Bowing was always highly ritualized in form, in spite of its irregularity.

The actual Bowing Postures, however, were not really very exaggerated, in themselves. The high phase posture usually looked more or less like an unritualized, ordinary, "alert" posture. The low phase posture was a little more distinctive. Comme ça.



With tail in D phase of TF.



With tail in V phase of TF.

(The top drawing is very good. The tail & body always looked like this during almost all D phases of TF's in the low Bowing Posture. I am less happy about the bottom drawing. I think I may ha



Ptiliophorus, Apr. 16, 1961, IV.

(37)

we exaggerated the raising of the tail in this posture.)

It was as this Bowing was accompanied by CR and at least some of the fluffing. The head and bill were usually pointed downward during the down phase (see drawing). I think this downward pointing is a reaction movement of pecking at least, since some birds of the species did peck down at the branch on which they were quite frequently and vigorously. This appeared to develop into Butt in some cases.

I think (but am not quite sure) that the ♂'s Bowing was also accompanied by WF's.

Most of his periods of intense activity and Bowing were quite silent, but once (at least) he uttered a few brief muffled "Tutters" during Bowing.

None of these Bowing performances ever led to anything more definite. The ♀ did not appear to respond to the ♂'s Bowing. She just sat or moved about in an otherwise uninteresting way while the ♂ bowed. Nevertheless, I should not be surprised if the Bowing turned out to be pre-uptatory display, or, at least, the result of frustrated sexuality.

I don't think the ♀ X can be incubating yet. At least she stayed near the ♂ steadily from dawn (6:10 a.m.) until 7:15 this morning.

Ptiliophorus, I.

May 22, 1961  
Quito

After watching the Thraupis bonariensis around here, I am beginning to think that Ptiliophorus may be most closely related



Phelliophorus, May 22, 1961, I

(3)

ated to some of the slightly gregarious mountain species of this type

Phelliophorus, I

April 18, 1962  
Cerro Santa

Arrive area where X pair were last year 6:00 a.m. No sign of birds!

Finally come across what are probably same 2 birds 7:22. Feeding. Give "Tuck"s when they see me. Eventually fly away.

Then see single bird feeding with mixed flock 7:30. This would suggest that ♀ is already incubating.

Then see another single bird feeding alone. Quite silent. Definitely not one of the X's. Perhaps incubation is in full swing throughout the population here.

This bird was moving about actively. The fact that it was silent may be an indication that "Tuck"s are not locomotor, intention movements pure and simple.

Phelliophorus, I

April 18, 1962  
Cerro Santa

During the last 3 days I have been working just below the upper pasture (watching Flame-colored Tanagers). At dawn on April 16, I saw 2 Yellow-thighs together in this area, and since then I have heard various "greeting type" Wbl's by Yellow-thighs, but usually there is only one bird visible in this area, feeding by itself or in association with birds of other species. This would suggest that the







Pelliophonus, Apr 18, 1962, II

(49)

with the WBL's of the first bird. Then the second bird flew across road into thicket of first bird. Then I hear typical Yellow-thigh "greeting" WBL's.

This was presumably a case of a ♂ being joined by his mate.

Pelliophonus, I

April 17, 1962  
Cerro Punta

Working in same place as yesterday this morning. The 2 birds I watched yesterday were also quite conspicuous this morning. All morning (until 9:00 a.m.). The ♀ was near the ♂ almost all the time. Perhaps her nest has been destroyed? One or both birds uttered what was otherwise "greeting" WBL's this morning. Quite as many as I have ever heard uttered by birds earlier in the season.

Pelliophonus I

April 20, 1962  
Cerro Punta

Working in Lewis's place this morning. Arrive 5:45 a.m.

Hear "Dawn Song" of a single Yellow-thigh @ 2:00 a.m. Solitary bird, sitting low inside thicket. Repeatedly uttering series of notes. "Zee-wa zee-wa zee-wa zee-wa zee-wa". At least 5 notes each series. Possibly more in some series. Accelerating. Becoming almost "zee-ker-zee-ker" toward end. Obviously closely related to, probably, only a high intensity form of, what I called 2-Note Song last year.

Bird sitting fairly erect during the performance. Throws head back during each series of notes. Possibly slight CR, but no other up



song pattern arrangement. No special wing or tail movements. Posture similar to the one above.



Bird flies off and disappears after singing for only a minute or so

6:45. I suddenly hear a burst of loud Wbl's from a clump of vegetation about 10 ft. from me. The bird described above was singing earlier. Each Wbl fairly Twitter. But also including 2 or 3 loud, urgent, "Ja-zee-zee-zee" notes. Then the bird uttering these Wbl's flies out of clump. Utters "Tuck" in flight. Goes into another clump. Apparently joins mate there, as I hear a loud burst of ordinary "quieting" Wbl. Pure Twitter.

X 6:50 Apparently same bird that sang earlier this morning back  
X in almost same area singing again. Uttering slightly different series of  
X notes. Obviously lower intensity. "Ja-zee-zee-zee-zee" and "Zee  
X zee-zee-zee-zee" All series very rapid. And slightly accelerating. Utters  
X many series, with only slight pauses between. At least 20 (prob



Pallipharus Apr 20 1962, II

(42)

X (ably many more) in a row. Some several different species

CORRECTION !!! This whole lot is of

X ed by a ♂ Wilson's Warbler !!! In the evening. After 10:00

X song of the species and the Yellow-throated Green

Pallipharus II

Apr 20, 1962

Cerro Punta

Suddenly come upon a Yellow-throated Green (first note) 2:30 PM  
Probably disturbed by me. Fly into tree. Utter "Tuck" as flight  
Then "grating" Twitter upon landing. Then hop through tree and bushes.  
Many more Twitters. Both birds BW after first "Tuck" Twitter.  
One bird continues to BW (2 or 3 times, each time) after later Twitters.  
Then both fly off.

7:09. Come across single bird sitting moderately high & quite  
exposed. Uttering some phrase repeatedly.  
"Tub tub tub tub Tawheewee"



Sitting with CR, underparts  
somewhat puffed.  
Beak not stretched up between  
in phrases. Bill pointed up  
during each phrase, but  
neck still not stretched  
upward. I think CR is main-  
tained during phrases



Pselliophorus Apr 22, 1962, II

(43)

Bird was away at a moment.

At 17:20 Perched in my out tree, but still moderately  
loud and expressed singing phrases just as before! Utters regularly  
approximately 8 per minute. seems for approximately a minute  
then flies off again.

So there would seem to be variation in the song of  
this species. In the morning it was of the Embury  
type. On my day songs in general? Or of "Brambling" both at the  
morning and during day?

The song of this bird might be described as "reduced" version  
of the "2 Note Song" I have heard before. Possibly low intensity  
(as indicated by the absence of "neck-stretching"), but I doubt it.

Pselliophorus, I

May 6, 1962

Barro Colorado

One of my 2 remaining captive birds uttered single song  
phrases, at relatively long intervals, this morning between 6:00  
a.m. and 7:00 a.m. I heard it (from a distance) utter similar phr  
ases from time to time during early morning both yesterday and the  
day before.

The first phrases this morning were all more or less  
"zeeee zeeee zeeee-ah" (The last note being rather raspy)

Later the bird uttered a few phrases like  
"zeeee zeeee to-zeee", as well as some more phrases like the ear  
lier ones.

The bird uttering these phrases is in a medium size cage, with  
another bird of the same species.



Psittophonus, I

April 22, 1963  
Barro Colorado

(74)

I have had my captive Yellow-crowned Night Heron for months now. Young down to care of Bird Institute is starting to run! Bird silent. Just flying and moving about cage normally.

6:10 am Bird suddenly starts to sing short rapid determined phrases of "Zee" notes. First phrase of 5 notes. "Zee zee zee zee zee." Later phrases 3 or 4 notes. Uttered at somewhat regular intervals. Bird stands or sits motionless during phrases themselves. Moves about between phrases.

Phrases becoming more frequent 6:15. Usually four notes. Last note of phrase often brightens now. "Zee zee zee zee<sup>u</sup>"

Phrases uttered from rather erect postures. Apparently unritualized. Still an occasional phrase of 5 "Zee" notes. But undoubtedly 4 note phrases are typical. With or without bright last note.

When last note is "bright", the phrases may be almost "Zee zee zee zee<sup>u</sup> za."

Bill is not pointed strongly upward during these phrases. Head is tail normally pointed downward. Bird apparently always standing, not sitting, during phrases. (Of course, it may be nervous about me.)

Partial correction — 6:30. Bird does tend to point its bill diagonally upward during phrases. But this seldom or never gets as far as in my drawings of the song postures of Chiriqui birds.

Little or no CR with these phrases. No CR between phrases.

Leaving 6:31, as Boca comes with food. Bird still singing in



the same way.

These songs would seem to be essentially the same as the first songs uttered by the same bird on May 6, 1962.

Putting presumed ♂ (Red) back in cage with presumed ♀ (white). 8:30 a.m.

Red hops about cage. Uttering lots of very soft "Tut" Notes supplanted by white. One bird utters very brief soft Twitter. Then they separate again. White lands close to Red. Again one bird utters very soft and brief, obviously incomplete, Twitter.

Both now far apart and silent. White utters soft "Tsa-a-wheet tsa-a-wheet." Then one or both utter(s) more similar notes sometimes single.

Red goes down to ground to feed. White follows, uttering a few "Tut" Notes 8:35. Then they separate again.

Both seem to ignore Wbl's of Orange-bell in adjoining cage. White suddenly goes into BV-TV. No Q. Silent. While some distance from Red.



No Belly fluffing  
No CR.  
Bill closed.

Facing toward Red



Then relaxes. No response from Red.

Both birds moving around normally & silently 8:40 a.m.

Then White approaches Red. White in same BV-TV as before. Again silent. Wings held out very slightly, but no Q. Red retreats immediately - hops to ground and moves away. Looks very much as if he were frightened by White's BV-TV!!!

Again White does BV-TV, facing Red, just as Red flies over her, lands on distant branch. Again wings held out very slightly. This time Q'd very slightly. No response.

Again White approaches Red with BV-TV. Again Red retreats. Birds are really quite remarkably silent during this. Only occasional "Tut" CN while moving about.

White goes down to bathe 8:47. Displacement? Then up to dry herself, while Red feeds on ground.

Then Red suddenly hops up and supplants White!! 8:52. Then Red down to feed again. Followed by White. White utters very brief and soft partial Twitter once, when landing a foot or so away from Red. No response.

Then White back to drying herself. Red perched quietly some distance away 8:57. Then Red starts hop about excitedly. Supplants White. One or both birds utter(s) a few soft "Tut" Notes while moving.

Then birds far apart and quiet again.

White goes into another BV-TV, wings slightly out, very fast and slight, barely perceptible, Q, when Red approaches her. But he just moves past her 9:01 a.m.

Again Red goes down to feed. Again White follows at distance.



♂'s seem to lead, and ♀'s follow, in this species.

For some reason, White starts to fly about, uttering "Tuck" Notes, 9:07. Disturbed by Orange-bills ????. In any case, her behavior seems to bother Red.

Again White does BV-TV pattern just after Red moves along branch above her. This BV-TV may be accompanied by very soft whistled "zee zee zee..." Notes.

Nothing much going on now, 9:17. Red sitting quietly. White moving about occasionally with occasional "Tuck" Notes. White still utters occasional brief soft indication of Twitter (really no more than a few brief & varied "Tut" Notes) when landing — sometimes when landing far away from Red.

White again follows Red down to feed. Then separate again.

Still nothing of interest 9:40 a.m. Birds quit sitting. Then one lands beside the other. Long typical greeting Twitter (by Red?). Then separate again. Red retreating.

TF's of these birds apparently always V-D.

Now both sitting quietly and preening, about 2 1/2 ft apart. Leaving 10:05, as still molting down.